From the
LOUISIANA
State Historic Preservation Office

Office of Cultural Development,
Department of Culture, Recreation and Tourism

More Than Just A Pretty Face
A Historic Homeowner's Guide to Exterior Paint

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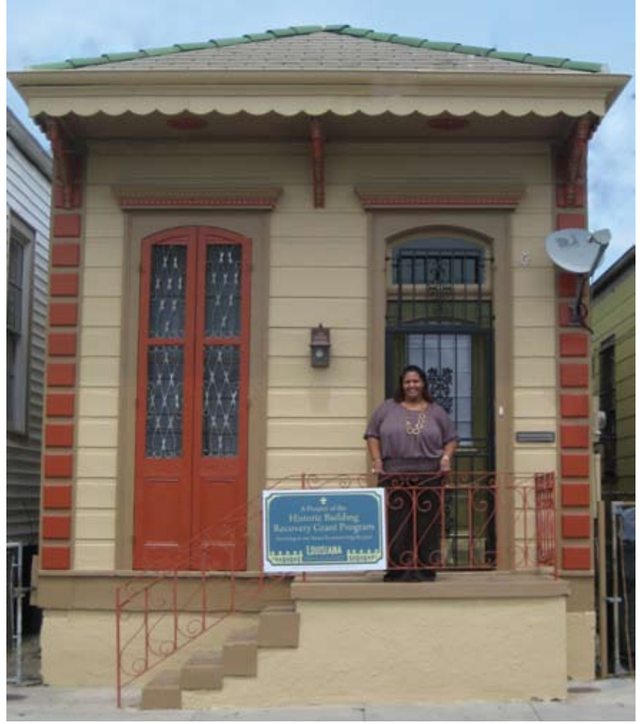
Historic Building Recovery Grant Program

Any homeowner who has spent hours pondering the perfect paint color can attest that new exterior paint brings dramatic results. To make a truly wise investment, however, historic homeowners should research more than paint colors. An inappropriate paint type applied to historic materials can lead to major damage behind a freshly painted façade. The following guide will explain the differences between historic and modern paint types and direct historic homeowners to exterior paint choices that will perform and protect as well as look good.



Historic Building Recovery Grant Program recipient Kim Sceau enjoys her home's new paint job, a dramatic improvement to the home's curb appeal that accentuates and protects its fantastic architectural details.

A flyer, circa 1876, from the Averill Chemical Paint Company promotes one of the earliest ready-mix exterior oil paints. Source: Paint in America

The purpose of exterior paint is twofold. Both practical and pretty, paint protects building materials from the elements — namely moisture — and slows deterioration of architectural and structural features. At the same time, exterior paint provides an attractive color scheme that emphasizes the architectural features it protects. Historic and modern paints serve the same purpose, but their different compositions determine how effective they are when applied over historic substrates.

LIME/WATER-BASED PAINTS, also known as lime/white wash, initially adorned historic stucco, masonry and occasionally wood facades. Composed of lime, water and natural pigments, limewashes expand and contract with historic stucco and masonry allowing the materials to freely take in and give off moisture and water vapor. This breathing process maintains moisture balance within the wall, protecting the structure from deterioration caused by trapped water. Unfortunately, less permeable latex paint often replaces a traditional limewash coating, trapping water within the wall and causing deterioration of historic material and structural framing members.

OIL PAINT was traditionally composed of pigment mixed into a linseed oil base and applied primarily to wood and ironwork. Historic formulations included white or red lead but were banned from use in the mid-1970s due to health hazards. Modern oil paints contain a synthetic, alkyd binder instead of linseed oil. Often called alkyd paints, modern oil paints are suitable for historic materials.

CASEIN PAINT is composed of lime, pigment and purified milk protein (casein) and often called milk paint. Traditionally an interior paint, it is not durable enough for exterior use.

LATEX PAINT is a modern acrylic paint that became commercially available in the 1950s. The early formula consisted of small, pigmented rubber particles suspended in a water solvent, but are replaced today by rubber pigments. Most common in new construction, latex is often touted as the go-to paint for any home improvement project, but historic homeowners beware. While appropriate for wood siding, latex paint should not be used on historic stucco, masonry or cast iron. Latex paint is gas permeable, allowing moisture vapor only to penetrate the paint. As humidity levels fluxuate, trapped water will eventually force its way out of brick or stucco in an effort to move from an area of high moisture content to low moisture content. Latex paint hinders the natural and necessary movement of water through stucco and brick, resulting in damaged masonry beneath bubbling paint.

So there you have it, a primer (no pun intended) on both historic and modern paint types. To put all this paint knowledge into practice, here's a handy list of common historic materials paired with the paint types that are appropriate for each surface:

STUCCO, also known as exterior plaster, traditionally achieved its coloring from sand, the aggregate included in the mix. In the late-18th and early 19th centuries, natural pigments were added to the mix to broaden the range of colors. Stucco was often coated with limewash, which provided extra protection and a wider range of color options. During the early 20th century, cement was introduced into the traditional stucco mix. Upon the addition of this ingredient, oil and latex paint became appropriate coatings for modern stucco. Because of this evolving stucco recipe, it is important to have a good idea of the age and composition of the stucco on your house prior to painting. Limewashes are the only appropriate coatings for 18th- and 19th-century stucco, while limewash, oil or latex paint may be appropriate for later, more modern mixes that include Portland cement. Repairs to historic stucco have often been previously painted with inappropriate modern paint. Often this modern paint will fail, making removal necessary prior to a new paint job. However, great damage can be done to the stucco when trying to remove an intact but inappropriate paint coating. Instead, if the coating and stucco is not failing, simply prime and repaint with a compatible paint type that will adhere to the existing top layer. A good rule of thumb for repainting any substrate is to always apply the weaker paint over the stronger paint or latex (weaker) over oil (stronger).

HISTORIC BRICK has a range of porosity depending upon its age and source. Early brick structures in colonial Louisiana were usually covered with stucco and limewash. In 1794, after the second great fire in New Orleans, Spanish law required all timber and brick walls to be protected with one inch of plaster (stucco) coating. Later, as exposed brick walls become the fashion, harder northern bricks were imported from places such as Baltimore and Philadelphia. Shortly after 1830, a higher quality local brick, known as "Lake brick," was produced north of Lake Pontchartrain. Lake brick was often left exposed on side and rear wall construction. Limewash remains the appropriate coating for historic brick today. As discussed above, latex paint seals moisture into a historic masonry wall, causing paint to blister and the brick to decompose as the water tries to escape. Latex paint is only appropriate for harder, modern brick fired after the turn-of-the-century and pointed with cement-based mortar.

WOOD, like brick, absorbs and gives off water as humidity rises and falls, but has a greater vulnerability to water damage. Wood clapboard siding and wood fences were often whitewashed (think Tom Sawyer), but this is a labor-intensive and time-consuming method that requires yearly maintenance. Most homeowners today appropriately choose exterior latex or oil paint for their wood-clad homes. These modern paint types are both vapor permeable and flexible (oil less so than latex) and allow wood clapboards and architectural elements to expand and contract in our humid climate while protecting them from damaging UV rays. Don't forget, when painting over existing paint layers, apply the latex (weaker) over oil (stronger) rule of thumb. If you are painting over existing latex, use a latex primer and topcoats. If you are painting over oil, use an oil primer followed by oil or latex finish coats.

CAST IRON, when painted, is a strong and durable material, but when left unpainted or painted improperly, can quickly become weak and brittle. Early 19th-century painting practices included priming cast iron in linseed oil and red lead paint. This traditional system prohibited rusting and formed a protective watertight film. The use of lead paint is now prohibited leaving modern paint formulas to finish the job. Alkyd enamel paints and alkyd rust-inhibitive primers are modern paints suitable for cast iron restoration and repainting. Zinc-rich primers and modern epoxy coating are suitable for smaller, cast iron elements, but difficult to properly apply to large buildings or store fronts. Latex and other water-based paints can cause immediate rusting if applied on bare metal and should never be applied to cast iron.

The physical properties of historic materials dictate what paint type is appropriate, so take a look back at the above guide when you're ready to tackle your next painting project. What a relief to know that's one less decision you have to make. If only choosing a paint color were so easy.

Inappropriate Paint Types For Historic Houses

WATERPROOF COATINGS, including elastomeric paint, are not appropriate for soft, historic brick and plaster. Moisture will find a way into masonry walls and waterproof coatings will keep it from escaping. Trapped water builds pressure within the wall and will eventually force its way out through spalling (when the masonry surface pops off), exposing the masonry interior and inviting further damage and deterioration. If you are experiencing dust from your masonry, this is the mortar. Repointing, not waterproofing, is the solution to this problem.

Spalling of historic brick caused by the inappropriate use of latex paint.

WATER-REPELLENT COATINGS are unnecessary treatments for historic masonry surfaces. Traditional treatments such as limewashes (see above) and stucco act as protective coatings that keep brick buildings in moisture balance. Water-repellent coatings can be difficult if not impossible to remove and may do more harm than good by decreasing the natural evaporation rate of the masonry wall.

CERAMIC PAINT is a relatively new paint type. Developed for use on space shuttles and most successful on metal substrates, it has only recently entered the house-paint market. Also called insulating paint, ceramic paint is often promoted on the basis that you never have to paint again. Whether this is true or not remains to be seen. Ceramic house paint simply hasn't been on the market long enough to truly evaluate its performance on wood siding. One thing is for certain; this elastomeric waterproof paint should definitely not be used on historic masonry or plaster.

Scraped and sanded wood siding is ready for paint. Well-bonded historic paint is left in place.

To Scrape Or Not To Scrape?

Before you take the extra time and effort to remove all existing layers of paint prior to a new paint job, assess the condition of your current colors. Unless paint is peeling or alligatoring (severe cracking that looks like reptile skin), complete paint removal is unnecessary and detrimental to the historic record of paint colors. You can easily remove dirt, mildew, chalking and staining from wood siding with water and gentle cleaners. Address more advanced problems such as blistering, wrinkling and spot peeling by removing paint only in the affected area. In the case of historic brick or stone where paint removal can be especially difficult, it is wise to consult a historic materials expert to conduct this task. Whether you're touching up existing paint or repainting your entire house, proper preparation followed by sanding will add years to a paint job's life.